

## LONG STRIDES MADE IN MOTOR INDUSTRY

Labor Saving Machines Reduce Cost of Car to the Consumer.

By C. A. PFEFFER,  
Chalmers Motor Co.

In measuring the tremendous stride made in manufacturing methods during the past ten years, I know of no more graphic gauge than the automobile catalogues issued even so recently as 1910 and those of the present day.

We find the motorist of 1910 paying \$2,000 and more for a motor car, and then making an additional outlay of several hundred dollars for accessories. Looking back it would seem as though the automobile buyer had been woefully overcharged. And yet, such was not the case.

Motor car makers were not nearly so prosperous then as they are today, mainly because wasteful manufacturing methods cut deeply into the annual dividends.

To the great number of visitors who annually inspect the Chalmers factory, the most interesting departments of the entire plant are those employing self-operating type, chief among the wonders of production are "Automatic" machines which seem to possess an uncanny power, coupled with absolute accuracy.

Into the automobile screw machine is fed bar steel; out of them comes the finished product—magneto couplings, springs, bolts, rocker arms, screws, and similar parts; in fact, one-fourth of all the small parts which go into an automobile.

As many as thirteen operations are performed by these machines on a single part. The machines are self-operating to the extent that one man can divide his attention among six machines. It is difficult to estimate how many men would be necessary under old-fashioned methods to keep up with the daily production of a battery of automatics.

Machinery of this type is now being used by the big munitions factories in the manufacture of shrapnel, proving that the high cost of killing is also being reduced.

In milling and lathe work, the motorist again witnesses methods whereby the first cost of his car is lessened. Several of the largest Ingersoll milling machines have a capacity of 150 complete cylinder blocks per day.

These machines carry ten blocks of cylinders, performing three operations at the same time. A spindle drill, just installed, bores forty-four holes in the aluminum flange for the running board in one operation. All of these machines are built to a standard of accuracy which renders their work correct to the 1-100 of an inch.

To obtain the best results in fender work, the Chalmers Company has installed a fender press which cost \$90,000. Formerly to secure the handsome curved fenders now in vogue it was necessary to have skilled artisans hammering away at sheet metal for hours at a time. On this new fender press, the attendant merely places a sheet of metal under the hammer, and a weight of 75 tons descends, pressing the metal into a die, and turning out a fender of unsurpassed beauty.

It is work of this kind and the labor-saving devices of the modern motor car maker that have placed automobiles on the present price plane. Without exaggerating, I can say that the average six-cylinder car, selling today for \$1,200, would have cost five times that amount only six years back. The prospective buyer of today has many reasons to be thankful that he is spending his money at a time when it will bring him the biggest possible return in value received.

## AJAX TIRES

Guaranteed

in writing

# 5000 MILES

"While Others Claim Quality  
We Guarantee It"

WHEN you buy Ajax tires you get something more than fine rubber and fabric and the vulcanization of these two. You get the maker's steadfast determination for Quality. Ajax tires are guaranteed in writing for 5,000 miles. Measured in miles, Ajax are better tires by 1,500 miles.

### Free Service For All Makes of Tires

In Trouble.

A flat tire anywhere in the city ANY MAKE—any time—any trouble—day or night.

Remedy.

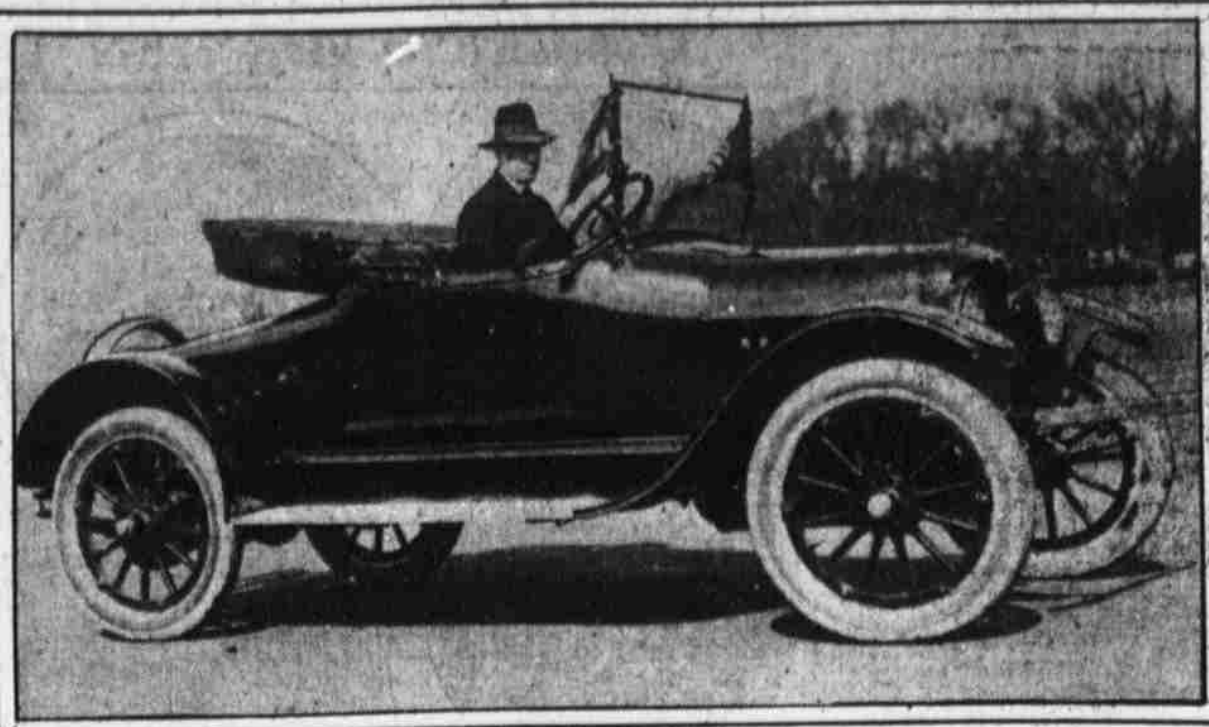
Call us from nearest phone. Service car will be dispatched immediately. No charge for service—only for material used.

The experience of Ten Years is back of our judgment in selecting Ajax Tires, whose 5,000-mile guarantee is WRITTEN.

## Frank G. Stewart

SOUTHERN AUTO SPECIALTIES CO.,  
1736 14th St. PHONE N. 5102.

## NEW MODEL ALLEN ROADSTER



The Allen has been attracting a good deal of attention in the "under a thousand" class. It possesses, besides its pleasing lines, rugged strength, speed, long gas mileage and power which is instantaneously responsive. The driver is PERRY KINYOUN, lately made manager of the local Allen branch.

### Packard Engineers Make Speed Trials

Company Maintains Its Own Experimental Garages at the Speedways.

By J. G. VINCENT.

Packard Motor Car Company.

The development of the new type Packard twin six engine, with its fitness for sustained speed, has furnished substantial reasons for demonstrations under racing conditions. That is why Packard engineers have been engaged repeatedly in speed trials on the speedways at Indianapolis, Chicago, and Sheepshead Bay.

We are maintaining our own experimental garages at these tracks, and we believe the speedways have rendered a distinct service to the art in providing facilities for such research work. Nowhere except on a speedway is it possible to subject a car to the rigorous test of continuous running at a speed approximately 100 miles an hour.

It was merely a coincidence that we perfected our twin six engine at about or shortly before the time that this type of motor was becoming recognized abroad as the most efficient power plant for aircraft. It is well known that our engine is the product of original research and invention.

Engineering Done Thoroughly.

We can establish the fact that our factory was all tooled up for the manufacture of this model at the time we purchased the original Sunbeam twelve. This car was torn down and thoroughly examined in our experimental shops, but the examination served only to reassure us as to the worth of our design.

We have designed two separate and distinct six motors for aircraft, one of maximum capacity for load carriers and a much smaller engine for scout work and private use. As it happens, this smaller engine has a total piston displacement of about 300 cubic inches. For convenience in proving out its durability, I am placing some of these motors in racing type chassis with the intention of driving them at high speed for long periods of time.

This method of testing aircraft motors is the same as that used by the Mercedes Company a few years ago, when they constructed several racing cars around their experimental aircraft motors and

captured the Grand Prix, which was so courteously staged by the French. The consistent performance of these engines during the present war has proved how thoroughly this engineering work was done.

Attitude Is Unchanged.

We shall make a very thorough comparison between the performance of this aircraft twin six engine and that of all available types of high efficiency motors which have been developed especially for speedway or aircraft work.

Incidentally, we expect to secure some valuable data on the comparative efficiency of four, six, eight, and twelve of equal piston displacement. We shall get this information as part of our regular engineering work, in pursuance of which we shall continue to carry on private tests on speedways.

Our attitude is unchanged. We have no prejudice against racing, and we have no intention of taking part in speedway contests. But in view of the great public interest in the performance of our aircraft motors, it is entirely possible that exhibition speed work will be carried on this season under A. A. A. supervision.

### Motorcycle Policeman Has Voice Cultivated

Howard D. Smith, a New York motorcycle policeman, who for several years has been chasing speeders through Metropolitan parks, is having his voice cultivated for a professional career. Funds for his musical education were placed at his disposal by a person of wealth, and he is taking lessons from Caruso. Smith's friends formerly watched accounts of motorcycle race meets around Greater New York to see what he was doing, as he had a great reputation as a rider before he joined the force, but before long they expect to turn to the music critic's columns for news of him.

### War Term.

"What is a counter attack, pa?"  
"When your mother goes shopping, Johnny."—Judge.

### ASCOT TRACK TO BE ONE OF THE FASTEST

LOS ANGELES, Cal., April 6.—Don Burman, the noted racing driver, who won second place in the George Washington Sweepstakes held on the new Ascot speedway here nearly two months ago, has expressed the opinion that when the track is finished with its asphalt surface, it will undoubtedly be far faster than even the Providence course.

This expression follows the sensational driving which characterized the above meet, originally scheduled for Washington's Birthday, but postponed until March 5 on account of rain. Despite the fearsome condition of the track, due to rain falling upon the oil before it was covered with gravel, necessitating repaving, repaving, and resurfacing, and the fact that it was a hard macadamized surface, covered with crushed rock and fine flinty screenings (put on to protect the course during practice) and which were not removed, the race proved speedy. The effect of the track upon the tires was much the same as if they had been driven upon emery wheels.

Basing his opinion upon the records which were made notwithstanding the hard going, Burman feels that an asphalt surface will enable the Ascot speedway to sponsor new racing records this year. The sweepstakes were won by Pullen. Burman took second money, Cooper third, and Lewis fourth. O'Donnell finished fifth with a non-stop record. Cooper is credited with driving the most sensational race of his career because he drove so close to the pole and so hard around the curves. Goodrich Silverstone tires were on all of the cars that finished.

## NEW CARBURETOR SAVES ON FUEL

"Breaks Up" Gas as It Draws It In and Sends More Power Into Motor.

C. Walter Hoover, who has just taken the local agency for the new Master carburetor, explained some of its merits recently, showing just how it differs from ordinary carburetors. He said:

"Without going into the theory of carburetion, I might point out that the better a carburetor breaks up or vaporizes the fuel as it draws it in, the more power there is in a given charge that goes into the cylinders of the motor. We are all striving to do that better than the other fellow, and our engineers hit upon a scheme that is giving satisfactory results along the lines of economy without sacrificing other desirable features of flexibility, power and speed.

Our principle, in a nutshell, is to break the fuel up into minute particles which are the more easily combined with the air. By using anyone from fourteen to nineteen jets instead of one or two, as is usually the case, we do the trick. These jets are much smaller than the average jets of the one or two jet instrument, and the total fuel that gets through them is ever less. The extreme fineness of this separation of the fuel, therefore, is apparent, as is also the feature of economy which must necessarily result.

"Motorists must be careful what carburetor they use, and must check up the results attained with it, if they would know where they stand and those days. There are economical carburetors as well as wasteful ones, but the owner must find out for himself. I believe the Master to be a wonder for the saving it will effect in fuel, but I would not want any car owner to put it on unless he made sure for himself.

"It is of first importance now, however, to satisfy yourself that the instrument you are using is the best you can get. Whether it be the Master or John Jones' instrument, make sure that it is the acme of economy, for you can save many dollars by proper attention to this one feature alone."

### Eleven New Members Join D. C. Motor Club

The bulletin of the District of Columbia Motor Club, for the week ended Saturday, April 8, contains the names of eleven new members. They are: James A. Messer, H. V. Hayden, Capt. Albert E. Saxton, U. S. A.; John Dolph, Earl Godwin, Mrs. E. B. Engel, Major A. E. Waldron, Mrs. Frank Moss, Mrs. George B. McGrath, O. H. Gore, and H. Norval Fortson.

The membership of the local club is increasing rapidly. Almost 300 names are now on the A. A. A. roster.

### Suspicion Personified.

A Wall Street man was speaking of the cautiousness of a certain operator. "No wonder," he said, "that man is so successful. He is the most careful, the most suspicious fellow I ever encountered. He reminds me of an old farmer I used to know. It was said of this farmer that, whenever he bought a new herd of sheep, he examined each sheep closely to make sure that it had no cotton in it."—Harper's Magazine.

## SAXON SIX

## More Power ON LESS GASOLINE!

SAXON SIX owners are getting 20 miles on one gallon of gasoline—and 150 miles on a quart of oil!

If this were the ONLY reason for the superiority of the SAXON SIX it would certainly command your serious consideration.

But—there are scores of other potent proofs. Take the motor, for instance.

It's a continental six-cylinder high-speed motor, equipped with a Rayfield hot-water jacketed carburetor, producing maximum efficiency. No car can be better than its motor, of course.

Then there's the foreign design, yacht-lined body, with gasoline tank under cowl, with simple gravity feed system, equipped with gauge in view of driver. Positive feed and tank protected from rear-end collisions. Body well upholstered and of liberal dimensions, both in width and depth, for five adults.

The 112-inch wheel base makes it possible for the car to turn a complete circle in 24 feet.

It's equipped with Wagner two-unit starting and lighting system, Ward-Leonard electrical fittings—thief and fool-proof, and Warner steering assembly of the worm type.

### AND BEST OF ALL THE PRICE IS ONLY \$815

25 Per Cent Less Than the Cost of a Car Comparable With Saxon Six.

FOUR-CYLINDER SAXON RUNABOUT, \$395

A NAME WITH A MEANING  
RECORD AUTO COMPANY

631-39 Mass. Ave. N. W.

Call Main 23 for Saxon and Ford Service

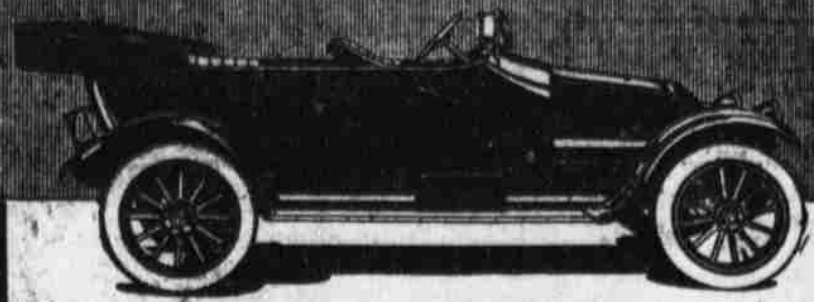
Norfolk Branch, 125 Brook Ave.

A few counties still open for live dealers in Maryland and Virginia. An opportunity you cannot afford to miss if you can get it. Here's your opportunity, grasp it.

Strength - Economy - Service



## Franklin 6-30



# \$1,950

Franklin owners in Washington report average tire mileage on their cars:

E. L. Brice.....	13,331	C. A. Hammet.....	11,000
F. W. West.....	12,800	G. W. Steel.....	9,200
T. B. Sweeney.....	12,800	W. A. Hall.....	9,000
L. Wahl.....	12,000	M. E. Myers.....	8,432
C. C. Griffith.....	10,054	J. F. Murrell.....	7,784

Many of these tires are still on the cars and in good condition. Numbers of other owners report average of over 6,000 miles WITHOUT A PUNCTURE and tires still in fine condition.

FRANKLIN SIMPLICITY, LIGHT WEIGHT, EASY RIDING is responsible for this excessive tire mileage.

Other records from 40 owners on file in our office. Come in and see them.

## David S. Hendrick Co., Inc.

1026 Conn. Ave.

Main 4042



## Power

DON'T overlook this matter of power. It is important. You want an automobile that will carry you through mud, sand and snow, and do it easily. You want a car that will climb hills, that will get away quickly without laboring and straining its every part.

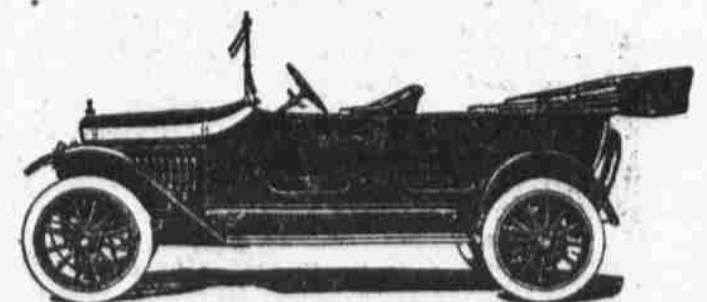
Not all cars can do these things, but you know that the Maxwell can because you have the proof.

When the Maxwell stock touring car set the World's Motor Non-Stop Mileage Record a few weeks ago, it encountered all sorts of unfavorable conditions—rain, mud and hills, over country and city roads—yet it covered 500 miles per day, day after day, for more than six weeks.

Power, plenty of power, unflinching power, is absolutely essential to such a wonderful performance as this.

Let us give you a booklet telling all the details of this record breaking Maxwell car. And let us tell you about our partial payment plan, by means of which you can make a cash deposit and pay the balance while you use the car. Give us the opportunity and we'll prove our case.

Touring Car, \$655  
Roadster, \$635  
Prices F. O. B. Detroit



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